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DATE: Thursday, May 06, 2004

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☐	L13	(L8 and duffy binding like) and @pd > 20030606	2
☐	L12	(L11 and erythrocyte) and @pd > 20030606	17
☐	L11	(L10 and polypeptide) and @pd > 20030606	65
☐	L10	(L8 and dbl) and @pd > 20030606	77
☐	L9	(L8 and domain dbl-1) and @pd > 20030606	0
☐	L8	(malaria) and @pd > 20030606	2642
☐	L7	(L6 and malaria) and @pd > 20030606	0
☐	L6	(L1 or L2 or L3 or L4 or L5) and @pd > 20030606	0
☐	L5	(fernandez-victor.in.) and @pd > 20030606	0
☐	L4	(qijun-chen.in.) and @pd > 20030606	0
☐	L3	(carlson-johan.in.) and @pd > 20030606	0
☐	L2	(barragan-antonio.in.) and @pd > 20030606	0
☐	L1	(wahlgren-mats.in.) and @pd > 20030606	0

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NEWS 4	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAplus
NEWS 5	FEB 05	German (DE) application and patent publication number format changes
NEWS 6	MAR 03	MEDLINE and LMEDLINE reloaded
NEWS 7	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS 8	MAR 03	FRANCEPAT now available on STN
NEWS 9	MAR 29	Pharmaceutical Substances (PS) now available on STN
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NEWS 12	MAR 29	New monthly current-awareness alert (SDI) frequency in RAPRA
NEWS 13	APR 26	PROMT: New display field available
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FILE 'LIFESCI' ENTERED AT 12:09:40 ON 06 MAY 2004

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=> e chen qijun/au
E1            1     CHEN QIJING/AU
E2            1     CHEN QIJUAN/AU
E3           83 --> CHEN QIJUN/AU
E4            4     CHEN QIKUI/AU
E5            5     CHEN QILAN/AU
E6            1     CHEN QILEI/AU
E7            1     CHEN QILI/AU
E8            9     CHEN QILIANG/AU
E9            5     CHEN QILIN/AU
E10           8     CHEN QILING/AU
E11           2     CHEN QILIU/AU
E12           6     CHEN QILONG/AU

=> s e3
L1           83 "CHEN QIJUN"/AU

=> s l1 and malaria
L2           46 L1 AND MALARIA

=> s l2 and dbl
L3            5 L2 AND DBL

=> d bib ab 1-5

L3   ANSWER 1 OF 5  BIOSIS  COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN   2000:343396  BIOSIS
DN   PREV200000343396
TI   The Duffy-binding-like domain 1 of Plasmodium falciparum erythrocyte
     membrane protein 1 (PfEMP1) is a heparan sulfate ligand that requires 12
     mers for binding.
AU   Barragan, Antonio; Fernandez, Victor; Chen, Qijun; von Euler,
     Anne; Wahlgren, Mats [Reprint author]; Spillmann, Dorothe
CS   Microbiology and Tumor Biology Center, Karolinska Institutet and Swedish
```

Institute for Infectious Disease Control, S-171 77, Stockholm, Sweden
SO Blood, (June 1; 2000) Vol. 95, No. 11, pp. 3594-3599. print.
CODEN: BLOOAW. ISSN: 0006-4971.
DT Article
LA English
ED Entered STN: 10 Aug 2000
Last Updated on STN: 7 Jan 2002
AB The Plasmodium falciparum erythrocyte membrane protein 1 (PfEMP1), present on the surfaces of parasitized red blood cells (pRBC), mediates rosetting, a virulent phenotype. Here, we show that pRBC specifically bind heparan sulfate (HS) and heparin onto their surfaces and that the rosetting ligand PfEMP1 specifically adheres to heparin-Sepharose when extracted from the surfaces of radioiodinated infected RBC. An analysis of the binding properties of the different regions of PfEMP1 provides evidence that the Duffy-binding-like domain-1 (**DBL**-1) is the predominant ligand involved in HS and heparin binding. Soluble **DBL**-1 requires a minimal heparin fragment size of a 12-mer (apprxeq4 kd) for binding and is critically dependent on N-sulfation. A 12-mer is also the minimal heparin fragment that disrupts naturally formed rosettes. **DBL**-1 binds specifically to erythrocytes and also to HS from endothelial cells and human aorta but not to chondroitin sulfate A, suggesting that different PfEMP1s mediate adhesion to distinct glycosaminoglycans in individual **malaria** parasites. Present data suggest that HS on endothelial cells may also be involved in the sequestration of pRBC. Elucidation of these binding mechanisms opens up new possibilities for therapeutic strategies targeting adhesive interactions of pRBC.

L3 ANSWER 2 OF 5 CABA COPYRIGHT 2004 CABI on STN
AN 2003:106365 CABA
DN 20033075213
TI The 3D7var5.2 (varCOMMON) type var gene family is commonly expressed in non-placental Plasmodium falciparum **malaria**
AU Winter, G.; **Chen QiJun**; Flick, K.; Kremsner, P.; Fernandez, V.; Wahlgren, M.; Chen, Q. J.
CS Microbiology and Tumor Biology Center, Karolinska Institutet, P.O. Box 280, SE-171 77 Stockholm, Sweden. mats.wahlgren@smi.ki.se
SO Molecular and Biochemical Parasitology, (2003) Vol. 127, No. 2, pp. 179-191. 50 ref.
Publisher: Elsevier Science Ltd. Oxford
ISSN: 0166-6851
DOI: 10.1016/S0166-6851(03)00004-5
CY United Kingdom
DT Journal
LA English
ED Entered STN: 20030707
Last Updated on STN: 20030707
AB Relapse variants in chronic Plasmodium falciparum infections are antigenically distinct from the parental parasites. The variable antigen PfEMP1 expressed at the surface of the infected erythrocyte (IE) is encoded by the var gene family with 60 copies per haploid genome. Placental isolates commonly express **DBL**[gamma] containing subtypes of var genes with homology to either 3D7var5.2 (varCOMMON) or FCR3varCSA. Here we report that varCOMMON related genes are constitutively transcribed in 60% of **malaria** infected children in Gabon. varCOMMON is conserved in field isolates over at least 2.1 kb. In 3D7 parasites varCOMMON is present on chromosome 5 (var5.2) and constitutively transcribed in the opposite direction to most other var genes. It lacks a regulatory intron, an acidic terminal segment and ends in telomeric repeat sequences. varCOMMON encodes a large, hypothetical PfEMP1 of a structure similar to previous placenta-binding PfEMP1s but it is not present at the IE-surface. IE of a 3D7 clone (3D7S8) transcribe varCOMMON but express a PfEMP1 distinct from varCOMMON at the surface and adhere to placental tissues through varCOMMON independent novel mechanisms. Our report

suggests that expression of varCOMMON type genes is not restricted to placental **malaria**.

L3 ANSWER 3 OF 5 CABA COPYRIGHT 2004 CABI on STN
AN 2000:119597 CABA
DN 20000808430
TI The Duffy-binding-like domain 1 of Plasmodium falciparum erythrocyte membrane protein 1 (PfEMP1) is a heparan sulfate ligand that requires 12 mers for binding
AU Barragan, A.; Fernandez, V.; **Chen QiJun**; Euler, A. von; Wahlgren, M.; Spillmann, D.; Chen, Q. J.; von Euler, A.
CS Microbiology and Tumor Biology Center, Karolinska Institutet and Swedish Institute for Infectious Disease Control, Box 280, S-171 77 Stockholm, Sweden.
SO Blood, (2000) Vol. 95, No. 11, pp. 3594-3599. 34 ref.
ISSN: 0006-4971
DT Journal
LA English
ED Entered STN: 20001006
Last Updated on STN: 20001006
AB The Plasmodium falciparum erythrocyte membrane protein 1 (PfEMP1), present on the surfaces of parasitized red blood cells (pRBC) mediates rosetting, a virulent phenotype. Here, we show that pRBC specifically bind heparan sulfate (HS) and heparin onto their surfaces and that the rosetting ligand PfEMP1 specifically adheres to heparin-Sepharose when extracted from the surfaces of radioiodinated infected RBC. An analysis of the binding properties of the different regions of PfEMP1 provides evidence that the Duffy-binding-like domain-1 (**DBL**-1) is the predominant ligand involved in HS and heparin binding. Soluble **DBL**-1 requires a minimal heparin fragment size of a 12-mer (4 kd) for binding and is critically dependent on N-sulfation. A 12-mer is also the minimal heparin fragment that disrupts naturally formed rosettes. **DBL**-1 binds specifically to erythrocytes and also to HS from endothelial cells and human aorta but not to chondroitin sulfate A, suggesting that different PfEMP1s mediate adhesion to distinct glycosaminoglycans in individual **malaria** parasites. Present data suggest that HS on endothelial cells may also be involved in the sequestration of pRBC. Elucidation of these binding mechanisms opens up new possibilities for therapeutic strategies targeting adhesive interactions of pRBC.

L3 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:249677 CAPLUS
DN 139:64084
TI The 3D7var5.2 (varCOMMON) type var gene family is commonly expressed in non-placental Plasmodium falciparum **malaria**
AU Winter, Gerhard; **Chen, Qijun**; Flick, Kirsten; Kremsner, Peter; Fernandez, Victor; Wahlgren, Mats
CS Microbiology and Tumor Biology Center, Karolinska Institutet, Stockholm, SE-171 77, Swed.
SO Molecular and Biochemical Parasitology (2003), 127(2), 179-191
CODEN: MBIPDP; ISSN: 0166-6851
PB Elsevier Science B.V.
DT Journal
LA English
AB Relapse variants in chronic Plasmodium falciparum infections are antigenically distinct from the parental parasites. The variable antigen PfEMP1 expressed at the surface of the infected erythrocyte (IE) is encoded by the var gene family with ≈60 copies per haploid genome. Placental isolates commonly express **DBL**γ containing subtypes of var genes with homol. to either 3D7var5.2 (varCOMMON) or FCR3varCSA. Here we report that varCOMMON related genes are constitutively transcribed in ≈60% of **malaria** infected children in Gabon. VarCOMMON is conserved in field isolates over at least 2.1 kb. In 3D7

parasites varCOMMON is present on chromosome 5 (var5.2) and constitutively transcribed in the opposite direction to most other var genes. It lacks a regulatory intron, an acidic terminal segment and ends in telomeric repeat sequences. VarCOMMON encodes a large, hypothetical PfEMP1 of a structure similar to previous placenta-binding PfEMP1s but it is not present at the IE-surface. IE of a 3D7 clone (3D7S8) transcribe varCOMMON but express a PfEMP1 distinct from varCOMMON at the surface and adhere to placental tissues through varCOMMON independent novel mechanisms. Our report suggests that expression of varCOMMON type genes is not restricted to placental **malaria**.

RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:379143 CAPLUS
DN 133:103071
TI The Duffy-binding-like domain 1 of Plasmodium falciparum erythrocyte membrane protein 1 (PfEMP1) is a heparan sulfate ligand that requires 12 mers for binding
AU Barragan, Antonio; Fernandez, Victor; **Chen, Qijun**; Von Euler, Anne; Wahlgren, Mats; Spillmann, Dorothe
CS Microbiology and Tumor Biology Center, Karolinska Institutet and Swedish Institute for Infectious Disease Control, Stockholm, S-171 77, Swed.
SO Blood (2000), 95(11), 3594-3599
CODEN: BLOOAW; ISSN: 0006-4971
PB American Society of Hematology
DT Journal
LA English
AB The Plasmodium falciparum erythrocyte membrane protein 1 (PfEMP1), present on the surfaces of parasitized red blood cells (pRBC), mediates rosetting, a virulent phenotype. Here, we show that pRBC specifically bind heparan sulfate (HS) and heparin onto their surfaces and that the rosetting ligand PfEMP1 specifically adheres to heparin-Sepharose when extracted from the surfaces of radioiodinated infected RBC. An anal. of the binding properties of the different regions of PfEMP1 provides evidence that the Duffy-binding-like domain-1 (**DBL**-1) is the predominant ligand involved in HS and heparin binding. Soluble **DBL**-1 requires a minimal heparin fragment size of a 12-mer (≈4 kd) for binding and is critically dependent on N-sulfation. A 12-mer is also the minimal heparin fragment that disrupts naturally formed rosettes. **DBL**-1 binds specifically to erythrocytes and also to HS from endothelial cells and human aorta but not to chondroitin sulfate A, suggesting that different PfEMP1s mediate adhesion to distinct glycosaminoglycans in individual **malaria** parasites. Present data suggest that HS on endothelial cells may also be involved in the sequestration of pRBC. Elucidation of these binding mechanisms opens up new possibilities for therapeutic strategies targeting adhesive interactions of pRBC.

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> s malaria and dbl
L4          137 MALARIA AND DBL

=> s l4 and vaccine
L5           27 L4 AND VACCINE

=> dup rem l 5
ENTER L# LIST OR (END):15
'L' IS NOT VALID.  VALID FILE NAMES ARE 'BIOSIS, MEDLINE, EMBASE, CABA, WPIDS,
BIOTECHDS, LIFESCI, CAPLUS'
You have entered a file name of duplicates to keep that is not
referenced by any of the L#s specified for this DUPLICATE command.
```

The file names of duplicates that can be kept are listed above.
Please enter one of these file names.

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6 10 DUP REM L5 (17 DUPLICATES REMOVED)

=> d bib ab 1-10

L6 ANSWER 1 OF 10 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
AN 2003:150361 BIOSIS
DN PREV200300150361
TI Common surface-antigen var genes of limited diversity expressed by Plasmodium falciparum placental isolates separated by time and space.
AU Khattab, Ayman; Kremsner, Peter G.; Klinkert, Mo-Quen [Reprint Author]
CS Institute for Tropical Medicine, University of Tuebingen, Wilhelmstrasse 27, 72074, Tuebingen, Germany
mo.klinkert@uni-tuebingen.de
SO Journal of Infectious Diseases, (1 February 2003) Vol. 187, No. 3, pp. 477-483. print.
CODEN: JIDIAQ. ISSN: 0022-1899.
DT Article
LA English
ED Entered STN: 19 Mar 2003
Last Updated on STN: 19 Mar 2003
AB Plasmodium falciparum placental parasites from Cameroon have been shown to express surface variant var genes encoding Duffy binding-like (**DBL**)-gamma domains that bind chondroitin sulfate A. All 5 domains exhibited sequences with 39%-55% amino acid (aa) identities and appear sufficiently conserved to function in receptor binding. Transcripts of 2 samples showed complete conservation over 4 kb, demonstrating for the first time distinct conserved placental var genes. Four placental isolates from Gabon collected 4 years later expressed **DBL**-gamma sequences with 85%-99% aa identities to those from Cameroon, confirming the conserved nature of placental variants separated by time and location. Five peripheral parasites from children also displayed **DBL**-gamma sequences with 75%-97% homologies. From this, it can be concluded that P. falciparum parasites expressing unique var **DBL**-gamma genes can cause placental **malaria**, referred to as varPAM genes. This demonstration of structurally/functionally constrained **DBL**-gamma chondroitin sulfate A-binding domains is relevant to understanding pregnancy-associated **malaria** pathogenesis and to **vaccine** development.

L6 ANSWER 2 OF 10 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 2
AN 2003:440172 BIOSIS
DN PREV200300440172
TI Immunization with recombinant duffy binding-like-gamma3 induces pan-reactive and adhesion-blocking antibodies against placental chondroitin sulfate A-binding Plasmodium falciparum parasites.
AU Costa, Fabio T. M.; Fusai, Thierry; Parzy, Daniel; Sterkers, Yvon; Torrentino, Marylin; Douki, Jean-Bernard Lekana; Traore, Boubacar; Petres, Stephane; Scherf, Artur; Gysin, Jurg [Reprint Author]
CS Unite de Parasitologie Experimentale, EA 3282, Faculte de Medecine, Universite de la Mediterranee, 27 boulevard Jean Moulin, 13385, Marseille, Cedex, 5, France
gysin@medecine.univ-mrs.fr
SO Journal of Infectious Diseases, (1 July 2003) Vol. 188, No. 1, pp. 153-164. print.
CODEN: JIDIAQ. ISSN: 0022-1899.
DT Article

LA English
ED Entered STN: 24 Sep 2003
Last Updated on STN: 24 Sep 2003
AB Maternal **malaria** is associated with the sequestration, in the placenta, of Plasmodium falciparum-infected erythrocytes onto chondroitin sulfate A (CSA), via the duffy binding-like (**DBL**)-gamma3 domain of the P. falciparum erythrocyte membrane protein 1 (PfEMP1CSA) (**DBL**-gamma3CSA). The production of antibodies against CSA-binding infected erythrocytes (IEsCSA) is correlated with resistance to maternal **malaria** in multiparous women. We produced recombinant **DBL** -gamma3CSA (rDBL-gamma3CSA) in insect cells, corresponding to 2 variant **DBL**-gamma3CSA subtypes that mediate binding to CSA in laboratory lines and placental isolates. Both recombinant cysteine-rich **DBL** -gamma3CSA domains blocked IEsCSA binding to CSA. Immunization of mice, with the rDBL-gamma3CSA-FCR3 and rDBL-gamma3CSA-3D7 domains, resulted in the generation of antibodies recognizing homologous and heterologous rDBL-gamma3CSA, a finding indicating conserved epitopes inducing a pan-reactive immune response. Mouse monoclonal antibodies (MAbs) against both recombinant proteins were pan-reactive with various IEsCSA. One MAb efficiently inhibited and reversed IECSA cytoadhesion to endothelial cells in vitro. Thus, **DBL**-gamma3CSA is the target of inhibitory and pan-reactive antibodies. Saimiri sciureus monkeys immunized with FCR3-rDBL-gamma3CSA developed pan-reactive and inhibitory antibodies, a finding suggesting that the development of a **vaccine** to prevent maternal **malaria** is feasible.

L6 ANSWER 3 OF 10 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN DUPLICATE 3
AN 2002-227139 [28] WPIDS
DNC C2002-069171
TI Producing polypeptide with Duffy binding-like domain, by expressing polypeptide in bacterium/yeast, extracting and denaturing it, refolding polypeptide in presence of arginine and urea, and optionally recovery.
DC B04 D16
IN CHITNIS, C; PANDEY, K; PATTNAIK, P; SINGH, S; YAZDANI, S S
PA (ITGE-N) INT CENT GENETIC ENG & BIOTECHNOLOGY
CYC 96
PI WO 2002012292 A2 20020214 (200228)* EN 47
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001095450 A 20020218 (200244)
ADT WO 2002012292 A2 WO 2001-EP9023 20010803; AU 2001095450 A AU 2001-95450 20010803
FDT AU 2001095450 A Based on WO 2002012292
PRAI GB 2000-19375 20000807
AB WO 200212292 A UPAB: 20020502
NOVELTY - Producing (M) a polypeptide (I) comprising a Duffy binding-like (**DBL**) domain, comprising expressing (I) in a bacterium, or as a non-secreted polypeptide in a yeast, extracting the expressed polypeptide from the bacterium or yeast and denaturing thee polypeptide, refolding the extracted polypeptide in the presence of arginine and urea, and optionally recovering the refolded polypeptide, is new.

DETAILED DESCRIPTION - An independent claim is also included for a pharmaceutical composition (PC) or a **vaccine** (II) composition obtainable or obtained by formulating the refolded polypeptide.

ACTIVITY - Protozoacide.

MECHANISM OF ACTION - Modulator of interaction of polypeptide and a host cell receptor involved in the entry of parasite into a host cell (claimed); **vaccine**.

Refolded PvRII was used to immunize rabbits and determine if it is

possible to elicit inhibitory antibodies. Sera from rabbits immunized with refolded PvRII and PfF2 were tested for reactivity with refolded PvRII and PfF2, respectively, using an enzyme linked immunosorbent assay (ELISA). High titre rabbit antibodies that were directed against PvRII and PfF2 were detected by ELISA. The ability of the antisera to block the binding of PvRII to Duffy positive human erythrocytes was also tested. PvRII was expressed on the surface of mammalian COS cells and tested for binding to human red blood cells (RBC) in the presence of different dilutions of rabbit antisera raised against refolded PvRII. Rabbit antisera completely blocked binding of RBCs to PvRII upto a dilution of 1:2500. The data indicated that refolded PvRII is immunogenic and can elicit inhibitory antibodies capable of blocking the binding of PvRII to RBCs.

USE - (M) is useful for producing a polypeptide comprising **DBL**. (I) is useful for identifying a substance that modulates the interaction between the polypeptide and a host cell receptor involved in the entry of a parasite into a host cell, by contacting the receptor with the polypeptide in the presence of a test substance, and determining the effect of the test substance on the interaction between the receptor and polypeptide and thus to determine if the test substance is capable of modulating the interaction between the receptor and polypeptide. The receptor is present on the surface of a cell. The substance identified by the above said method is useful in the manufacture of a medicament for treating or preventing **malaria**. PC or (II) is useful for treating or preventing **malaria** in an individual. (All claimed). (I) is useful as **vaccine** to prevent **malaria** or infection by P. falciparum or P. vivax.

ADVANTAGE - The polypeptides can be refolded by rapid dilution in the presence of urea and arginine, so that they adopt a biologically active conformation. If the arginine is removed prior to the removal of urea after refolding, the yield of refolded polypeptide achieved is maximized. The polypeptides obtained are not glycosylated so that the epitopes of the polypeptide are not masked. Using baculovirus or mammalian cells for the method is far less expensive.

Dwg.0/9

L6 ANSWER 4 OF 10 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
AN 2003-07175 BIOTECHDS
TI New **vaccine** against **malaria** Plasmodium falciparum parasite comprising Erythrocyte Binding Protein polypeptide; vector-mediated gene transfer and expression in host cell for use against **malaria** infection
AU MAYER G; MILLER L H
PA US DEPT HEALTH and HUMAN SERVICES
PI WO 2002078603 10 Oct 2002
AI WO 2002-US10071 29 Mar 2002
PRAI US 2001-281130 2 Apr 2001; US 2001-281130 2 Apr 2001
DT Patent
LA English
OS WPI: 2003-092869 [08]
AB DERWENT ABSTRACT:

NOVELTY - A new **vaccine** composition comprises a polypeptide or polynucleotide and a vehicle. The polypeptide or polynucleotide comprises an amino acid or nucleic acid sequence, respectively, that encodes a BAEBL polypeptide or its portion.

WIDER DISCLOSURE - Also disclosed as new is a polynucleotide sequence encoding all or a portion of BAEBL of the **DBL**-EBP family, a polynucleotide sequence comprising 4138 base pairs, fully defined in the specification, a recombinant DNA molecule comprising a vector and a DNA sequence encoding BAEBL, a Plasmodium BAEBL protein, and a polypeptide comprising an amino acid sequence having a consecutive number of amino acid sequence selected from a BAEBL protein.

BIOTECHNOLOGY - Preferred **Vaccine** Composition: The **vaccine** composition further comprises: (1) an adjuvant consisting

of QS-21, Detox-PC, MPL-SE, MoGM-CSF, TiterMax-G, CRL-1005, GERBU, TERamide, PSC97B, Adjumer, PG-026, GSK-1, GcMAF, B-alethine, MPC-026, Adjuvax, CpG ODN, Betafectin, Alum or MF59; and (2) a second polypeptide comprising an amino acid sequence that encodes at least a portion of a Duffy binding protein or erythrocyte binding antigen-175 (EBA-175) of a **malaria** Plasmodium parasite. Preferred Polypeptide: The polypeptide portion consists of a sequence having 6-584 amino acids taken from BAEBL polypeptide and encoding a BAEBL region II or its portion. The BAEBL polypeptide comprises or has at least 70, 80, 90, 95 or 99% identity with, the fully defined 1210-amino acid sequence. It is encoded by a polynucleotide having at least 70, 80, 90, 95 or 99% identity with the open reading frame of the 4138-bp sequence. The BAEBL polypeptide has a polymorphism consisting of I at position 185, N at position 239, T or R at position 261 and E at position 285. Preferred Polynucleotide: The polynucleotide encoding the BAEBL polypeptide hybridizes at 42degreesC in a solution comprising 50% formamide, 5 x SSC (750 mM NaCl, 75 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5 x Denhardt's solution, 10% dextran sulfate, and 20 microg/ml denatured, sheared salmon sperm DNA, followed by washing the filters in 0.1 x SSC at 65degreesC, to a second polynucleotide having the 4138-bp sequence. Preferred Method: Vaccinating a human against a **malaria** Plasmodium parasite comprises administering the **vaccine** composition or the antibodies specific for the binding site of the BAEBL ligand for inhibiting the ligand from binding red blood cells, by protein or genetic immunization. Preparation: The **vaccine** is prepared by recombinant techniques.

ACTIVITY - Protozoacide; Immunostimulant. No biological data given.

MECHANISM OF ACTION - **Vaccine**. No biological data given.

USE - The **vaccine** composition is useful for preparing a medicament for vaccinating a human against a **malaria** Plasmodium parasite (claimed).

ADMINISTRATION - The **vaccine** composition may be administered via oral, intramuscular, intradermal, subcutaneous, intranasal, intracapsular, intraspinal, intrasternal or intravenous route.

EXAMPLE - No relevant examples given. (55 pages)

L6 ANSWER 5 OF 10 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4
AN 2002:454114 BIOSIS
DN PREV200200454114
TI Sequestration of Plasmodium falciparum-infected erythrocytes to chondroitin sulfate A, a receptor for maternal **malaria**: Monoclonal antibodies against the native parasite ligand reveal pan-reactive epitopes in placental isolates.
AU Douki, Jean-Bernard Lekana; Traore, Boubacar; Costa, Fabio T. M.; Fusai, Thierry; Pouvelle, Bruno; Sterkers, Yvon; Scherf, Artur; Gysin, Jurg [Reprint author]
CS Unite de Parasitologie Experimentale, URA IPP/UNIV-MED/IMTSSA EA3282, Faculte de Medecine, Universite de la Mediterranee (Aix-Marseille II), 13385, Marseille Cedex, 5, France
gysin@medecine.univ-mrs.fr
SO Blood, (August 15, 2002) Vol. 100, No. 4, pp. 1478-1483. print.
CODEN: BLOOAW. ISSN: 0006-4971.
DT Article
LA English
ED Entered STN: 28 Aug 2002
Last Updated on STN: 28 Aug 2002
AB Plasmodium falciparum parasites express variant adhesion molecules on the surface of infected erythrocytes (IEs), which act as targets for natural protection. Recently it was shown that IE sequestration in the placenta is mediated by binding to chondroitin sulfate A via the duffy binding-like (**DBL**)-gamma3 domain of P falciparum erythrocyte membrane protein

1 (PfEMP1CSA). Conventional immunization procedures rarely result in the successful production of monoclonal antibodies (mAbs) against such conformational **vaccine** candidates. Here, we show that this difficulty can be overcome by rendering Balb/c mice B cells tolerant to the surface of human erythrocytes or Chinese hamster ovary (CHO) cells before injecting P falciparum IEs or transfected CHO cells expressing the chondroitin sulfate A (CSA)-binding domain (**DBL**-gamma3) of the FCR3 varCSA gene. We fused spleen cells with P3U1 cells and obtained between 20% and 60% mAbs that specifically label the surface of mature infected erythrocytes of the CSA phenotype (mIECSA) but not of other adhesive phenotypes. Surprisingly, 70.8% of the 43 mAbs analyzed in this work were IgM. All mAbs immunoprecipitated PfEMP1CSA from extracts of 125I surface-labeled IECSA. Several mAbs bound efficiently to the surface of CSA-binding parasites from different geographic areas and to placental isolates from West Africa. The cross-reactive mAbs are directed against the **DBL**-gamma3CSA, demonstrating that this domain, which mediates CSA binding, is able to induce a pan-reactive immune response. This work is an important step toward the development of a **DBL** -gamma3-based **vaccine** that could protect pregnant women from pathogenesis.

L6 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:916147 CAPLUS
DN 139:336209
TI Two **DBL**γ subtypes are commonly expressed by placental isolates of Plasmodium falciparum. [Erratum to document cited in CA137:350349]
AU Fried, Michal; Duffy, Patrick E.
CS Seattle Biomedical Research Institute, Seattle, WA, 98109, USA
SO Molecular and Biochemical Parasitology (2002), 125(1-2), 217
CODEN: MBIPDP; ISSN: 0166-6851
PB Elsevier Science B.V.
DT Journal
LA English
AB Reference 1 should read as follows: [1] Rowe JA, Kyes SA, Rogerson SJ, Babiker HA, Raza A. Identification of a conserved Plasmodium falciparum var gene implicated in **malaria** in pregnancy, J Infect Dis 2002; 185:1207-11.

L6 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:509983 CAPLUS
DN 137:350349
TI Two **DBL**γ subtypes are commonly expressed by placental isolates of Plasmodium falciparum
AU Fried, Michal; Duffy, Patrick E.
CS Seattle Biomedical Research Institute, Seattle, WA, 98109, USA
SO Molecular and Biochemical Parasitology (2002), 122(2), 201-210
CODEN: MBIPDP; ISSN: 0166-6851
PB Elsevier Science B.V.
DT Journal
LA English
AB Adhesion to chondroitin sulfate A (CSA), a distinguishing feature of **malaria** parasites obtained from the human placenta, might be mediated by the Duffy-binding-like (**DBL**) γ domain of the variant surface antigen Plasmodium falciparum erythrocyte membrane protein-1 (PfEMP1). We studied transcription of var genes (that encode PfEMP1) in placental parasites by amplifying and sequencing **DBL** γ fragments from genomic DNA and cDNA of field isolates collected in western Kenya. We amplified **DBL**γ fragments with divergent sequences from individual isolates by using various sequence-specific or degenerate primers. Transcripts detected with degenerate primers clustered phylogenetically within two **DBL**γ subtypes with homol. to chr5_1.gen_150 or FCR3.varCSA. Interestingly, the **DBL**

α encoded by chr5_1.gen_150 was recently found to be commonly expressed by placental isolates from Malawi. The findings are consistent with earlier serol. evidence that surface antigens of placental parasites have conserved features, and suggest that vaccines based on **DBL** γ may only need to target a limited number of variants.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 10 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN DUPLICATE 5
AN 2000-194198 [17] WPIDS
CR 1995-123427 [16]; 1997-052231 [05]
DNC C2000-060139
TI Isolated protein binding domains from Plasmodium vivax and Plasmodium falciparum erythrocyte binding proteins useful for vaccinating against **malaria**.
DC B04 D16
IN CHITNIS, C; MILLER, L H; PETERSON, D S; SIM, K L; SU, X; WELLEMS, T E
PA (USSH) US DEPT HEALTH & HUMAN SERVICES
CYC 1
PI US 5993827 A 19991130 (200017)* 93
ADT US 5993827 A CIP of US 1993-119677 19930910, US 1995-487826 19950607
PRAI US 1995-487826 19950607; US 1993-119677 19930910
AB US 5993827 A UPAB: 20020621
NOVELTY - Isolated polypeptides comprising ebl-1 amino acid sequences, are new.

DETAILED DESCRIPTION - ebl-1 polypeptides are encoded by the **DBL** (Duffy-binding like) gene family and are substantially identical to the Duffy Antigen Binding Protein (DABP) and Sialic Acid Binding Protein (SABP), which are soluble proteins that appear in the culture supernatant after erythrocytes infected with **malaria** release merozoites. Immunochemical studies indicate that DABP and SABP are the respective ligands for Plasmodium vivax and Plasmodium falciparum Duffy and sialic acid receptors on erythrocytes.

INDEPENDENT CLAIMS are also included for the following:
(1) an isolated nucleic acid (I) comprising an ebl-1 coding sequence;
(2) a vector (II) comprising (I);
(3) a recombinant host cell comprising (I) and/or (II);
(4) a method (IV) for producing an immune response to P. falciparum merozoites in a patient, comprising administering ebl-1 polypeptides as antigens; and
(5) a recombinant method for making an ebl-1 polypeptide, comprising expressing (II) in a host cell (i.e. (III)) and isolating the ebl-1 polypeptide from the host cell culture.

ACTIVITY - Protozoacide.
No biological data given.
MECHANISM OF ACTION - **Vaccine**.
USE - The ebl-1 polypeptides may be used to vaccinate against **malaria**. In particular, it is used to vaccinate against **malaria** caused by P. falciparum, the major causative agent which infects 200 - 400 million people and kills 1 - 4 million every year.

ADVANTAGE - Immunization with the polypeptide provides effective protection against **malaria**.
Dwg.0/5

L6 ANSWER 9 OF 10 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN DUPLICATE 6
AN 1997-052231 [05] WPIDS
CR 1995-123427 [16]; 2000-194198 [03]
DNC C1997-017382
TI New **malaria** vaccines - contains cysteine-rich **DBL** family protein binding domains homologous domains of the Duffy and sialic acid binding proteins.
DC B04 D16
IN CHITNIS, C; MILLER, L H; PETERSON, D S; SIM, K L; SU, X; WELLEMS, T E

PA (USSH) US DEPT HEALTH & HUMAN SERVICES; (USSH) US SEC DEPT HEALTH
CYC 71
PI WO 9640766 A2 19961219 (199705)* EN 96
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN
AU 9661605 A 19961230 (199716)
WO 9640766 A3 19970206 (199722)
EP 832118 A2 19980401 (199817) EN
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
AU 720355 B 20000601 (200035)
ADT WO 9640766 A2 WO 1996-US9508 19960607; AU 9661605 A AU 1996-61605 19960607; EP 832118 A2 EP 1996-919208 19960607, WO 1996-US9508 19960607; AU 720355 B AU 1996-61605 19960607
FDT AU 9661605 A Based on WO 9640766; EP 832118 A2 Based on WO 9640766; AU 720355 B Previous Publ. AU 9661605, Based on WO 9640766
PRAI US 1995-487826 19950607
AB WO 9640766 A UPAB: 20020621
New compsns. (I) for the treatment and prevention of **malaria** comprise either a nucleotide sequence of encoded polypeptide of the var-1, var-2, var-3 or var-7 genes of the **DBL** gene family, a family of genes having homology with conserved regions of the Duffy antigen binding protein (DABP) and the sialic acid binding protein (SABP).
USE - The compsns. are used for the treatment and prevention of **malaria**. (I) are used in the preparation of vaccines for inducing a protective immune response in a mammal to Plasmodium merozoites (especially Plasmodium falciparum or Plasmodium vivax).
Dwg.0/5

L6 ANSWER 10 OF 10 CABA COPYRIGHT 2004 CABI on STN
AN 97:87059 CABA
DN 19970802951
TI Proceedings of the 12th Meeting of the Brazilian Society of Protozoology and the 23rd Annual Meeting on Basic Research in Chagas' Disease. Caxambu, MG, Brazil, 5-8 November 1996
AU Cruz, A. K. [EDITOR]; Silveira, J. F. da [EDITOR]; Floeter-Winter, L. M. [EDITOR]; Takeda, G. K. F. [EDITOR]; Carmargo, E. P. [EDITOR]; Roitman, I. [EDITOR]
SO Memorias do Instituto Oswaldo Cruz, Supplement, (1996) Vol. 91, No. Supplement, pp. 331.
Price: Conference paper; Journal article .
Meeting Info.: Proceedings of the 12th Meeting of the Brazilian Society of Protozoology and the 23rd Annual Meeting on Basic Research in Chagas' Disease. Caxambu, MG, Brazil, 5-8 November 1996.
DT Journal
LA English
ED Entered STN: 19970815
Last Updated on STN: 19970815
AB This volume presents the proceedings of the joint 12th Meeting of the Brazilian Society of Protozoology and the 23rd Annual Meeting on Basic Research in Chagas' Disease held in Caxambu, Minas Gerais, Brazil on the 5-8 November 1996. The volume contains summaries of the following conferences, miniconferences and roundtables which formed part of the meeting. Conferences: observations on some non-pigmented "**malaria** " parasites of Amazonian reptiles and speculations on the phylogeny of the sub-order Haemosporina (Apicomplexa: Eucoccodiida); molecular analysis of BIP and other HSP70 gene homologues in Pneumocystis carinii; parasite-altered host behavior (the impact of Toxoplasma gondii on its wild brown rat intermediate host); diversity and ecology of soil protozoa; Plasmodium falciparum: immuno-protective versus escape mechanisms in host parasite relationships; insect-Plasmodium interactions (genetics and

immunology of the **malaria** mosquito Anopheles gambiae); evidence that novel members of the **DBL**-domain perfamily are ligands for erythrocyte receptors during invasion; invasion and intracellular survival by T. gondii; cell death in leishmaniasis; generation of an invasive phenotype in Trypanosoma cruzi by an endogenous cytokine-like molecule; two major phylogenetic lineages of T. cruzi defined by DNA markers. Miniconferences: phylogeny and evolution of karyorelictids, a unique assemblage of marine, interstitial ciliates (Protozoa, Ciliophora); is cytoadherence the pathogenetical basis of cerebral **malaria**?; the relevance of genetic studies on drug resistance in **malaria** to control of the disease; evolutionary origins of human Plasmodium species; global efforts on leishmaniasis **vaccine** development (a progress report on TDR-supported activities); the influence of arthropod vector saliva on disease transmission; enzymes of amino acid catabolism in T. cruzi; the surface proteins of T. cruzi form a superfamily of variant T cell epitopes that inhibit the T cell response. Roundtables: parasitic protozoa of animals; molecular biology; biology of vectors and molecular entomology; immunology of Chagas' disease and leishmaniasis; chemotherapy of Chagas' disease and leishmaniasis; pathology and diagnosis of Chagas' disease; cell biology of trypanosomatids; molecular biology of T. cruzi and Leishmania; enzymes and metabolism of trypanosomatids; immunology of Chagas' disease and leishmaniasis. The volume also contains a total of 521 abstracts of presented papers arranged in the following sections: protozoology (n=96); vectors (n=78); Leishmania (cellular biology, immunology, biochemistry and molecular biology, chemotherapy) (n=120); T. cruzi (cellular biology, immunology, biochemistry and molecular biology, chemotherapy) (n=227). An author index is included.